Listing of Claims:

Claims 1 – 13 (cancelled).

Claim 14 (new): A process for the recovery of acrylonitrile, methacrylonitrile or hydrogen cyanide obtained from the reactor effluent of an ammoxidation reaction of propane, propylene or isobutylene comprising passing said reactor effluent through an absorber column, a recovery column and a heads column comprising a feed tray wherein the improvement comprises operating said heads column in a manner which inhibits the formation of an aqueous phase above the feed tray of said heads column wherein said manner is selected from one or more of the group consisting of:

(a) increasing the reflux ratio of said heads column to the point that no aqueous phase forms above the feed tray;

(b) using a side decanter to remove aqueous material from said heads column;

(c) wherein said heads column comprises stripping trays, increasing the number of stripping trays of said heads column;

(d) wherein said heads column comprises a reboiler with a reboiler duty, increasing the reboiler duty of said heads column;

(e) wherein said heads column comprises a reflux condenser, using an intermediate condenser above the feed tray of said heads column and below the reflux condenser of said heads column;

(f) wherein a feed stream enters the heads column, cooling the feed stream to a temperature that no aqueous phase forms above the feed tray;

(g) wherein said heads column comprises a reflux condenser and a reflux stream, subcooling the reflux stream to said heads column; and

(h) reducing operating pressure of said heads column so that the aqueous liquid phase is reduced with pressure reduction.

Claim 15 (new): The process of Claim 14 wherein the manner of operating the heads column which inhibits the formation of an aqueous phase above the feed tray comprises increasing the reflux ratio of said heads column to the point that no aqueous phase forms above the feed tray.

Claim 16 (new): The process of Claim 14 wherein the manner of operating the heads column which inhibits the formation of an aqueous phase above the feed tray comprises using a side decanter to remove aqueous material from said heads column.

Claim 17 (new): The process of Claim 14 wherein the heads column comprises stripping trays and the manner of operating the heads column which inhibits the formation of an aqueous phase above the feed tray comprises increasing the number of stripping trays of said heads column.

Claim 18 (new): The process of Claim 14 wherein the heads column comprises a reboiler with a reboiler duty, and the manner of operating the heads column which inhibits the formation of an aqueous phase above the feed tray comprises increasing the reboiler duty of said heads column.

Claim 19 (new): The process of Claim 14 wherein the heads column comprises a reflux condenser, and the manner of operating the heads column which inhibits the formation of an aqueous phase above the feed tray comprises using an intermediate condenser above the feed tray of said heads column and below the reflux condenser of said heads column.

Claim 20 (new): The process of Claim 14 wherein a feed stream enters the heads column, and the manner of operating the heads column which inhibits the formation of an aqueous phase above the feed tray comprises cooling the feed stream to a temperature that no aqueous phase forms above the feed tray.

Claim 21 (new): The process of Claim 14 wherein the heads column comprises a reflux condenser and a reflux stream, and the manner of operating the heads column which inhibits the formation of an aqueous phase above the feed tray comprises subcooling the reflux stream to said heads column.

Claim 22 (new): The process of Claim 14 wherein the manner of operating the heads column which inhibits the formation of an aqueous phase above the feed tray comprises reducing operating pressure of said heads column so that the aqueous liquid phase is reduced with pressure.